He draws the following conclusions:

(1) In any case of general paresis running its complete course the accommodation reflex is never either always normal or always abnormal, but is invariably altered at one time or other. (2) In the majority of cases the accommodation reflex is simultaneously affected in both eyes, or at least both eyes are affected by a similar alteration, usually a diminution of the reflex, though its exaggeration is occasionally observed. (3) In the two earlier periods, the tendency is rather to enfeeblement than to abolition of this reflex. In the end stage there is greater tendency to its abolition. (4) The rule is successive enfeeblement in at least two stages. (5) In the first period the accommodation reflex is altered in one half the cases; in the second is two-thirds; in the third, normality is altogether exceptional, though it may be present. (6) Exaggeration of the reflex occurs when at all, only in the first stage. (7) Abolition of reflex is probably never produced at once, but always in successive stages. (8) The two stages of alteration generally coincide with the progress of the disease, enfeeblement being the rule in the earlier, loss of reflex in the later period.

(Vol. XI., No. 4, 1906.)

1. Contribution to the Diagnosis of Mental Irregularities. The Anthropometric Frontiers of the Abnormal, After Binet. DECROLY.

1. *Diagnosis of Mental Irregularities.*—After referring to a previous communication made by him on this subject, the author gives in tabular form the results of his examination of thirty-three children, pupils of a school for the backward, and coming from a better social stratum than those forming the basis of his earlier paper. He concludes, that anthropometric measurements confirm the conclusions of Binet. Among twenty-two of the thirty-three children, showing decided intellectual inferiority, twelve showed measurements below Binet's frontier for the sum of the cephalic diameters, in three they were very near it, and in one case at the superior limit. As to stature, five were below Binet's limit. Among the eleven other children, none gave measurements below the limit for the sum of the cephalic measurements, one only was below the height limit. These investigations confirm the fact that there is also an upper frontier for head measurements, but figures beyond this, less necessarily imply mental inferiority, since the enlargement may sometimes be due to causes external to the brain, and as a fact some hydrocephalics are intelligent. For an anomaly of the cranium, a cause must act either before or within a short time after birth. In estimating each individual case it is necessary to remember that inferior height may be due to cerebral lack of development, or lesion or to general nutritional trouble. The relation between hight and cranial measurements is of less importance, than that the latter are up to the standard. Only six of the author's cases fell below the height standard, while there were twelve having the sum of the cranial measurements below the frontier, and of these twelve, but four were under height.

ALLEN (Trenton).

Journal de Psychologie Normale et Pathologique

(Third Year, No. 1. January-February, 1906.)

1. A Tentative Classification of the Disorders of Pantomine Among the Demented. G. DROMARD.
2. The Physiological Explanation of Emotion. G. R. D'ALLONNES. (Continued.)
3. Example of Psychomotor Induction in a Cat. CH. FÉRÉ.
4. Hypochondria. PIERRE ROY.
5. Two Cases of Temporary Mental Disturbance That Were Highly Suggestive of Simulation. P. JUQUELIER.

1. *Classification of the Disorders of Pantomime.*—The study of the pantomimic manifestations of the demented is a recent one, and thus far writers have singularly limited themselves to the mere description of them. No attempt at classification is to be found in any of the general works in

which, nevertheless, much space is devoted to the portrayal of the facial expressions, gestures and attitudes of the insane. In the present article, which is to be followed in the course of the year by two more elaborate ones, Dromard offers a tentative classification and explains briefly the basis wherein he constructs it. He postulates that, like the physiological function of verbal speech, there is a distinct, specific function of pantomimic speech. They are both forms of language; and both verbal speech and gesture are evolved in response to the same needs. They are likewise both dependent upon special centres; those of the former being located in the cerebral cortex, those of the latter in the basal ganglia, especially the optic thalamus. Pantomimic manifestations are characterized by both qualitative and quantitative attributes, but it is always vague and profitless to speak of mere hypermimia or hypomimia, of increased or diminished pantomimia. The function and its exhibitions are pathological only when the expression of the face, tne gesture, the attitude is irrelevant, inadequate or inappropriate to the idea or emotion which it accompanies, no matter if that expression, gesture or attitude be quantitatively insufficient or excessive, or if it be qualitatively contradictory or simply discordant. It is the relationship between the thought in the mind of the patient and the accompanying gesture that determines the normality or abnormality of the latter. The latter may seem very inappropriate to us, and yet were we in complete comprehension of the patient's inner consciousness at the moment it would be found to be perfectly in accord. Hence it is of no conseauence to say merely that the gestures are exaggerated or diminished, that they are not in accord with the commonly accepted modes of gesture. The examiner must first learn the patient's state of mind, both as to ideas and emotions, and then determine the utter inappropriateness of the intended, associated gesture before he can pronounce the latter a sign of disease. Pantomimic manifestations may be grouped first under two general heads; the *voluntary or active movements* (ideative pantomimia, in association with the intellectual life) and the *involuntary or passive movements* (emotive pantomimia, in association with the affective life). The man, for instance, who laughs by means of his higher psychic centers is not the man who laughs by means of his lower thalamic centers. To be able to distinguish the former from the latter by objective manifestations is to possess the art of knowing how to detect simulation. The disorders in the sphere of ideative or voluntary pantomimia are to be credited to the disturbance of the associations which depend upon the connecting links that normally unite thought with its appropriate motor expression. Of these disturbed associations there are two great groups; first, where the adaptation of the motor manifestation to the accompanying idea is wholly wrong and vicious (paramimic asemia in aphasics, mannerisms in hysterics and hebephrenics, and pantomimic neologism in those who retain conventional gestures that are inappropriate to the idea that is present); and secondly, where the adaptation of the motor manifestation to the thought is merely faulty, the higher mind withholding its normal control over the motor phenomena which in turn then becomes automatic (secondary automatism as seen in stereomimia and primary automatism as in echomimia).

The disorders in the sphere of emotive or involuntary pantomimia involve, like the preceding, disturbances of adaptation, but in the latter there is noticeable a disturbance more of a physiological than of a psychological character involving the basal ganglia. They are distinctly functional in origin. They may be divided into two general groups; first, those involving the cortical centers of the ideo-affective associations (paramimia as observed in dementia præcox); and secondly, those involving the thalamic centers of the psycho-reflex (spasmodic pantomimia from failure of inhibition, dissociated pantomimia from dynamogenic failure).

2. *The Psysiological Explanation of Emotion.*—To be continued.

3. *Psychomotor Induction in a Cat.*—This is a detailed account, by Féré, of how one cat watched and instinctively, closely imitated the actions

of another cat, in order to show what he means by the term "psychomotor induction," apparently a form of psychic suggestion, and to demonstrate that as an elemental phenomenon it exists in the lower animals as well as in man.

4. *Hypochondria.*—Roy discusses and contrasts the two prominent doctrines as to the origin of hypochondria; namely, the psychic doctrine (Dubois) and the visceral (Head, Gamble and others). He concludes that there is no such thing as a purely psychic, ideogenic hypochrondria; nor on the other hand is there a purely symptomatic hypochondria wherein a visceral or other peripheral disease can be said to so affect a perfectly healthy brain. For the evolution of hypochondria two conditions are requisite; namely, a special psychopathic constitution and some form of cœnesthesic disorder. The latter is due to some visceral or other peripheral disability and is often amenable to treatment; the former is more difficult of management because it is more or less due to heredity and requires a most energetic course of psychotherapy. As a distinct malady due to a specific, etiological factor, hypochondria does not exist. It is merely a state of mind symptomatic of some preceding diseased condition.

5. *Temporary Mental Disturbance Suggestive of Simulation.*—Juquelier warns against the making of hasty diagnoses and cites two cases of persons that under superficial examination were supposed to be more or less malingerers, but upon further information were shown to be the victims of temporary mental aberration.

The first case was that of a traveling merchant who was robbed by confidence men of a large sum of money. Stunned and chagrined, he suddenly lost all control of himself, wandered aimlessly toward the river with the vague purpose of drowning himself, was arrested and subjected to a severe police examination, and proving obstreporous was put down as a simulator. He might have even been considered as a criminal and as a co-conspirator with the confidence men. After a few days he seemed to lose his obstinacy, and in his own native German freely gave his name and all needed information in regard to himself. It ultimately appeared that his memory was a blank as to his doings from the time of the robbery until the time that he seemed to come out of a sort of hypnotic state and give his name to the officials. He had no recollection of his attempt at suicide, his arrest or obstinacy.

The second case was that of a woman who, upon arrest, assumed a bizarre attitude, was insolent, extravagant, puerile and in every way acted so that one could hardly help thinking of malingering. She ultimately proved to be an illiterate hysteric, and what was thought to be mere exasperating obstinacy and wantonness on her part was really a manifestation of a hysterical attack.

As Juquelier says in his brief study of these two cases the differentiation of disease from simulation is easily made if one remembers that hypothermia, coldness of the extremities, modifications of the pulse and respiration cannot be artificially produced so as to cause them to appear as they do in certain diseased states. Simulators as a rule overdo their parts. The imitator of maniacal excitement exaggerates her incoherence and failure of attention. One who is maniacally excited is not amnesic. Moreover, with such a one, it is often possible to interrupt by a question the deluge of words indicating an intellectual overactivity, to obtain a reasonable response, and to construct a history of the disease.

(Third Year, No. 2. March-April, 1906.)

1. The Disorders of the Musical Language Among Hysterics. INGEGNIEROS.
2. The Physiological Explanation of Emotion. G. R. D'ALLONNES. (Concluded.)

1. *The Musical Language Among Hysterics.*—Ingegnieros presents rather an elaborate study of hystericl dysmusia and reports a number of interesting cases of this somewhat new clinical group.

The musical aphasias or amusias constitute the fundamental clinical type and when they are of hysterical origin, are always accompanied by other well-known stigmata and accidents of hysteria, especially hysterical mutism. Under such circumstances the condition is one of complicated or combined hysterical amusia. Sometimes, however, the disorder is limited to the musical sphere entirely, there being no alterations in the sphere of ordinary language in any of its forms or manifestations. The latter is a condition of pure hysterical amusia. From his own clinic the author reports in detail three cases of pure hysterical amusia and says that his search through the literature has failed in discovering any others.

The first case was that of a young man twenty-five years of age, unmarried, a student of law, living in comfortable circumstances. His general history reads like that of the average, precocious psychoneurotic. His first hysteroepileptiform seizure occurred when he was sixteen. It, as well as those that followed, was of the nature of a temporary psychic absence. As a student of music the young man had attained a notable degree of proficiency both in the execution and the comprehension of the art. One evening he went to his piano as usual to play, but remained perfectly immobile without knowing what to do. It seemed to him, as he expressed it, as though "his memory had fled from his brain." He picked up some printed selections to try, but could not remember or comprehend the meaning of the lines with the notes and marks upon them. Surprised at all this, he endeavored to recall mentally and to whistle the beginning of some of his favorite melodies. He could not do it. He had clearly lost his musical sense or language completely in all of its forms and modes of expression. The careful examination of the patient soon after this by the author discovered many typical stigmata of hysteria. There was no change in his general intelligence, volition or emotionality. His character and conduct were as usual. His mental state was the familiar one of the average neuropath. In regard to music, however, it was found that he could comprehend absolutely nothing. He could neither perform nor understand written music. He was not able even to recognize or comprehend music when it was produced vocally or instrumentally by someone else. It was impossible for him to represent mentally to himself a single musical phrase. The patient declared that "he heard the music as one would hear the sounded words of a language which he was totally ignorant of." He retained only the conception of rhythm, but it was exclusive of all possible relationship with melody or harmony; it was merely the rhythm of noises and nothing more.

There were no other indications of the disturbance of languages; no apraxia; no amimia; no dysphonia, dyslalia or dysarthria. The author sought in vain for the least sign of dysphasia, verbal deafness, alexia, aphemia or agraphia. The man was clearly the victim of a pure and complete amusia of hysterical origin. Full recovery took place after a few months steady and persistent re-education of the musical faculty. He was able to perform and intelligently interpret at the end of five months his favorite repertoire from Bach, Beethoven, Liszt, Brahms, Mendelssohn and Chopin.

The author's second case, not so fully reported as the first, was that of a woman twenty-two years of age, with a frank neuropathic, hysterical record. Mutism had occurred and this, of course, slightly complicated the linguistic stigmata. Once before her marriage, at the age of twenty, she had a hysterical outbreak while performing upon the piano. She was unable to continue her playing because all of a sudden she ceased to hear what it was that she was playing. It seemed to her that the sounds were mere percussion notes "as if she were performing on a piano that had no strings." This observation was made by the patient upon the very day of the hysterical attack, but as she played from memory, and only moderately well, it was no hardship for her to give up her playing. This condition lasted for more than a year. Afterwards she recovered her auditory musical sense, but very imperfectly, so that she was not able to perform upon the piano on account of the inadequacy of her hearing.

In addition to the above, the author learned from his own personal investigation that the patient was wont to play from memory; that is to say, she was a "musical illiterate." Her musical language included the three functions, singing, hearing and instrumental performance. Reading and writing were wanting. She preserved the ability to sing and to play by means of her muscle-memories; but she neither comprehended nor heard what she sang or played. The loss of her auditory musical sense was complete for all forms of instruments and all sorts of voices. She was subject to "tonal deafness" like those individuals who have been named "musical idiots." The etiology and evolution of this case was most distinctly hysterical.

The third case was that of a young woman whose father and brothers were pronounced neuropaths. Her own history was typically hysterical and takes cognizance of convulsive seizures, paroxysmal attacks of laughing, instability and originality of character, and most singular tastes. She obtained a mediocre musical education, and played the piano from memory as well as from studious application. After her first confinement, which was not at all a difficult one, she suddenly lost all memory for instrumental performance. When she wished to play the piano she could not succeed in moving her fingers over the keyboard. On the other hand, she sang easily and was able to write music perfectly. She comprehended the music distinctly; she heard and read it with her usual facility. The only centre which apparently did not functionate was that of the psychic motor representations for technical performance; the centre for song language and that for musical writing, both motor, worked normally. The sensory auditory and visual centers revealed no disorder. Ordinary language was normal in all of its various modes of expression. Hence the patient presented a clear illustration of pure motor amusia under the form of an instrumental aphemia. Re-education in this case brought about a rapid restoration of the function.

In conjunction with these three pure types of amusia, the author reports a number of cases of incomplete or partial amusia. A classification is suggested and the whole subject is interestingly and quite exhaustively treated.

2. *Physiological Explanation of Emotion.*—The theory of James, Lange, Sergi and others holds that the affective state is the resultant of somatic, motor and sensorial sensations which are not affective in themselves, but which give rise to emotion through their relationships, their accumulation, their confusion, their inadaptation. This makes emotion *relational* in character and not specific. According to the intellectualistic theory, on the other hand, emotion is merely a sudden charge in the intensity, the liveliness, the course of the mental acts of consciousness. This theory, like the former, denies the specific character of the emotional state and postulates its dependence merely upon the interaction of mental representations. Sallier has fused together, as it were, the James-Lange physiological theory and the intellectualistic psychological theory by maintaining that pure mental representations, being the result of cerebral activity, are no less physiological manifestations than are ordinary sensory and sensory-motor phenomena; and by arguing that their mutual interaction gives rise to emotion quite as much as does the mutual interaction of the sensations. d'Allonnes invokes the results of certain recent experiments upon animals obtained by Bechterew and by Sherrington, and his own study of a remarkable clinical case, to show the intenability of both the above theories when either is adopted as the sole explanation of the nature and origin of the emotions. He maintains that a broader view of the emotional state will harmonize both theories and recognize the truth in both. He finds that the affective phenomena appear as distinct, specific presentations, having for their special physiological basis visceral phenomena. The in-

ternal somatic sensations are necessary and adequate conditions for the existence of the affective state. In the absence of these sensations, other sensations and representations, whatever may be their combinations and modes of discharge, do not attain to the point of provoking emotion. Visceral anesthesia leads to unemotionalism; under which circumstances pantomimia, the cognitive, and active processes exhibit themselves much in the same way that they would were a true emotion existent. As opposed to the teachings of James, Sallier and intellectualism, the facts cited by the author lead him to the drawing of a sharp distinction between inclination and emotion, and a visceral theory of emotion. He thinks that there are three forms or types of emotion, each with its own particular modes of expression. He names them the *shack-emotion,* the *inclination-emotion* and *the inemotive-inclination.* The last especially does he dwell upon and declare that it has been largely overlooked in most of the hypotheses advanced to explain some of the outward manifestations of the affective state. The visceral conditions and other physiological requisites insisted upon by James and those who adopt the theory of the peripheral origin of the emotions are not needed for the manifestation of the inemotive-inclination. METTLER (Chicago).

Miscellany

PRELIMINARY STUDY OF NERVE TISSUE DEGENERATION. Koch and Johnson (Am. Jour. Phys., XV., No. III, 1906).

1. Degenerated nerve tissues contain less solids than normal, owing to the fact that as the cortex wastes away cerebrospinal fluid partially takes its place and renders the tissues more watery. Barrat mentions the same observation in his paper. Edema may contribute to this.

2. Nucleo-proteids are increased, owing mainly to the presence of large numbers of leucocytes proliferating blood vessel elements and neuroglia cells.

3. The average and the minimum results indicate little or no change in lecithins, cephalins and sulphur compound (combined) in the prefrontal, as well as the motor areas, which cannot be accounted for by variations in the material. The increased amount of cerebrin in the motor area (degenerated) indicates that these samples contained a larger mixture of white matter.

4. The experimental degeneration produced by cutting the cord of a dog and allowing it to degenerate nineteen days gives results on chemical analysis, which resemble the degeneration of general paresis. There is a similar increase in the amount of water and nucleo-proteid, and comparatively little change as regards the relative amount of other constituents.

5. Barratt's interesting observation that the percentage of total phosphorus in normal and degenerated brains is the same, is here only partially confirmed. The relative amounts of the alcohol, ether, soluble phosphorus compounds, the lecithins and the cephalins are indeed practically unchanged, although their absolute amount is much reduced. The interesting increase in nuclein phosphorus entirely escaped his attention.

6. The absolute amount of lecithins, cephalins and cerebrins and sulphur compounds must be very much reduced in general paralysis, their proportions relative to one another remains, however, practically unchanged.

7. In conclusion, it is interesting to note that the nervous system, more than any other tissue, both in pathological and experimental degeneration, tends to keep its relative composition constant, which observation is in harmony with the results obtained in starvation.